

NEIL1 (h): 293 Lysate: sc-111234

BACKGROUND

NEIL1, NEIL2 and NEIL3, also known as endonuclease VIII-like 1, 2 and 3 or DNA-(apurinic or apyrimidinic site) lyase NEIL1, 2 and 3, respectively are nuclear proteins involved in the repair of DNA damaged by oxidation. The NEIL proteins belong to the FPG family of proteins. They act as DNA glycosylases that can recognize and remove damaged bases, leaving an abasic site. NEIL3, however, lacks the proline residue at the N-terminus which acts as the active site residue found in NEIL1 and NEIL2. NEIL1 is a ubiquitously expressed protein that is upregulated during S phase. NEIL2 is expressed primarily in testis, heart, skeletal muscle, placenta, brain, kidney and liver, while NEIL3 is detected primarily in thymus and testis.

REFERENCES

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2. Dou, H., Mitra, S. and Hazra, T.K. 2003. Repair of oxidized bases in DNA bubble structures by human DNA glycosylases NEIL1 and NEIL2. *J. Biol. Chem.* 278: 49679-49684.
3. Shinmura, K., Tao, H., Goto, M., Igarashi, H., Taniguchi, T., Maekawa, M., Takezaki, T. and Sugimura, H. 2004. Inactivating mutations of the human base excision repair gene NEIL1 in gastric cancer. *Carcinogenesis* 25: 2311-2317.
4. Das, A., Rajagopalan, L., Mathura, V.S., Rigby, S.J., Mitra, S. and Hazra, T.K. 2004. Identification of a zinc finger domain in the human NEIL2 (Nei-like-2) protein. *J. Biol. Chem.* 279: 47132-47138.
5. Mokkapati, S.K., Wiederhold, L., Hazra, T.K. and Mitra, S. 2004. Stimulation of DNA glycosylase activity of OGG1 by NEIL1: functional collaboration between two human DNA glycosylases. *Biochemistry* 43: 11596-11604.
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CHROMOSOMAL LOCATION

Genetic locus: NEIL1 (human) mapping to 15q24.2.

PRODUCT

NEIL1 (h): 293 Lysate represents a lysate of human NEIL1 transfected 293 cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

NEIL1 (h): 293 Lysate is suitable as a Western Blotting positive control for human reactive NEIL1 antibodies. Recommended use: 10-20 µl per lane.

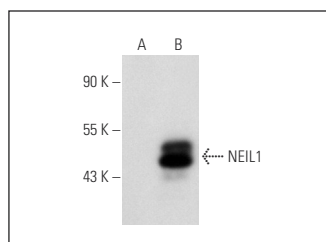
Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

NEIL1 (B-1): sc-271167 is recommended as a positive control antibody for Western Blot analysis of enhanced human NEIL1 expression in NEIL1 transfected 293 cells (starting dilution 1:100, dilution range 1:100-1:1,000).

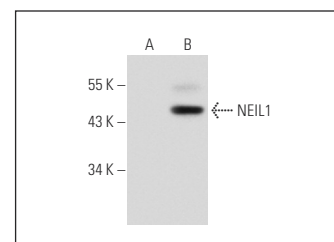
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



NEIL1 (B-1): sc-271167. Western blot analysis of NEIL1 expression in non-transfected: sc-110760 (A) and human NEIL1 transfected: sc-111234 (B) 293 whole cell lysates.



NEIL1 (D-4): sc-365302. Western blot analysis of NEIL1 expression in non-transfected: sc-110760 (A) and human NEIL1 transfected: sc-111234 (B) 293 whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.